

What is claimed is:

1. A method for compensating track offset in an optical disk drive,
comprising:

- 5 (a) providing an optical disk with wobbled grooves;
the wobbled grooves being used for generating a wobbling
signal with a wobbling period;
- (b) recording a beat-inducing signal on the disk;
a period of the beat-inducing signal having a specific
10 relationship with the wobbling period in such a way that a beat
signal is induced by the beat-inducing signal and the wobbling
signal;
- (c) generating a tracking-error signal using a push-pull method
by optically reading the wobbled grooves of the disk and the
15 beat-inducing signal recorded on the disk;
the tracking-error signal containing a beat signal induced
by the beat-inducing signal and the wobbling signal; and
- (d) compensating track offset based on the beat signal
contained in the tracking-error signal.

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2. The method according to claim 1, wherein the period of the
beat-inducing signal is set at a value within a range from 0.85
to 1.25 times as much as the period of the wobbling signal.

3. The method according to claim 1, wherein a level of the beat signal is compared with a first reference level and a second reference level in the step (d) of compensating track offset, where the first reference level is different from the second reference level;

5 level;
and wherein if the level of the beat signal has a first relationship with the first reference level and a second relationship with the second reference level, the beat signal is determined as good.

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4. The method according to claim 1, wherein a dc component of the beat signal is extracted;

and wherein the track-offset value is set in such a way that the dc component of the beat signal is set at a specific level.

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5. The method according to claim 4, wherein the specific level is approximately zero.

6. The method according to claim 1, wherein in the step (d) of compensating track offset, whether the beat signal is good or not is judged with respect to a specific value of the track offset;

and wherein if the beat signal is judged as good, the track offset is fixed at the specific value;

and wherein if the beat signal is judged as no-good, the

specific value of the track offset is changed to a different value and then, whether the beat signal is good or not is judged again.

7. A method for compensating track offset in an optical disk drive,
5 comprising:

(a) providing an optical disk with wobbled grooves and a beat-inducing signal;

the wobbled grooves being used for generating a wobbling signal with a wobbling period;

10 a period of the beat-inducing signal having a specific relationship with the wobbling period in such a way that a beat signal is induced by the beat-inducing signal and the wobbling signal;

(b) generating a tracking-error signal using a push-pull method
15 by optically reading the wobbled grooves and the beat-inducing signal recorded of the disk;

the tracking-error signal containing a beat signal induced by the beat-inducing signal and the wobbling signal; and

(c) compensating track offset based on the beat signal
20 contained in the tracking-error signal.

8. The method according to claim 7, wherein the period of the beat-inducing signal is set at a value within a range from 0.85 to 1.25 times as much as the period of the wobbling signal.

9. The method according to claim 7, wherein a level of the beat signal is compared with a first reference level and a second reference level in the step (c) of compensating track offset, where
5 the first reference level is different from the second reference level;

and wherein if the level of the beat signal has a first relationship with the first reference level and a second relationship with the second reference level, the beat signal is
10 determined as good.

10. The method according to claim 7, wherein a dc component of the beat signal is extracted;

and wherein the track-offset value is set in such a way that
15 the dc component of the beat signal is set at a specific level.

11. The method according to claim 10, wherein the specific level is approximately zero.

20 12. The method according to claim 7, wherein in the step (c) of compensating track offset, whether the beat signal is good or not is judged with respect to a specific value of the track offset;

and wherein if the beat signal is judged as good, the track offset is fixed at the specific value;

and wherein if the beat signal is judged as no-good, the specific value of the track offset is changed to a different value and then, whether the beat signal is good or not is judged again.

- 5 13. A system for compensating track offset in an optical disk drive, comprising:

(a) means for recording a beat-inducing signal on an optical disk with wobbled grooves;

the wobbled grooves being used for generating a wobbling
10 signal with a wobbling period;

a period of the beat-inducing signal having a specific relationship with the wobbling period in such a way that a beat signal is induced by the beat-inducing signal and the wobbling signal;

- 15 (b) means for generating a tracking-error signal using a push-pull method by optically reading the wobbled grooves of the disk and the beat-inducing signal recorded on the disk;

the tracking-error signal containing a beat signal induced by the beat-inducing signal and the wobbling signal; and

- 20 (c) means for compensating track offset based on the beat signal contained in the tracking-error signal.

14. The system according to claim 13, wherein the period of the beat-inducing signal is set at a value within a range from 0.85

to 1.25 times as much as the period of the wobbling signal.

15. The system according to claim 13, wherein a level of the beat
signal is compared with a first reference level and a second
5 reference level in the means for compensating track offset, where
the first reference level is different from the second reference
level;

and wherein if the level of the beat signal has a first
relationship with the first reference level and a second
10 relationship with the second reference level, the beat signal is
determined as good.

16. The system according to claim 13, further comprising a filter
for extracting a dc component of the beat signal;

15 wherein the track offset value is set in such a way that
the dc component of the beat signal is set at a specific level.

17. The system according to claim 16, wherein the specific level
is approximately zero.

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18. The system according to claim 13, wherein in the means for
compensating track offset, whether the beat signal is good or not
is judged with respect to a specific value of the track offset;

and wherein if the beat signal is judged as good, the track offset is fixed at the specific value;

and wherein if the beat signal is judged as no-good, the specific value of the track offset is changed to a different value
5 and then, whether the beat signal is good or not is judged again.

19. A system for compensating track offset in an optical disk drive, comprising:

(a) means for generating a tracking-error signal using a
10 push-pull method by optically reading wobbled grooves of an optical disk and a beat-inducing signal recorded on the disk;

the wobbled grooves being used for generating a wobbling signal with a wobbling period;

a period of the beat-inducing signal having a specific
15 relationship with the wobbling period in such a way that a beat signal is induced by the beat-inducing signal and the wobbling signal;

the tracking-error signal containing a beat signal induced by the beat-inducing signal and the wobbling signal; and

20 (b) means for compensating track offset based on the beat signal contained in the tracking-error signal.

20. The system according to claim 19, wherein the period of the beat-inducing signal is set at a value within a range from 0.85

to 1.25 times as much as the period of the wobbling signal.

21. The system according to claim 19, wherein a level of the beat
signal is compared with a first reference level and a second
5 reference level in the means for compensating track offset, where
the first reference level is different from the second reference
level;

and wherein if the level of the beat signal has a first
relationship with the first reference level and a second
10 relationship with the second reference level, the beat signal is
determined as good.

22. The system according to claim 19, further comprising a filter
for extracting a dc component of the beat signal;

15 wherein the track-offset value is set in such a way that
the dc component of the beat signal is set at a specific level.

23. The system according to claim 22, wherein the specific level
is approximately zero.

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24. An optical disk drive comprising the system according to one
of the claims 13 to 23.

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